Message

From: g.d.beckett@aquiver.com [g.d.beckett@aquiver.com]
Sent: 8/22/2021 10:40:08 PM
To: Palazzolo, Nicole [Palazzolo.Nicole@epa.gov]; Grange, Gabrielle Fenix [gabrielle.grange@doh.hawaii.gov]; Ichinotsubo, Lene K [lene.ichinotsubo@doh.hawaii.gov]; 'Whittier, Robert' [Robert.Whittier@doh.hawaii.gov]; 'Don Thomas' [dthomas@soest.hawaii.edu]
CC: Matt Tonkin [matt@sspa.com]; Tu, Lyndsey [Tu.Lyndsey@epa.gov]; Duffy, Mark [duffy.mark@epa.gov]
Subject: RE: Update on EPA/DOH comments on GW Flow Model Objectives
Attachments: Draft GWFM Objectives 22Jul21_Tonkin_add_DOH_TRACKED_dt_li_gd.docx

Hi folks,

I started comments (attached), but as I moved along, I think we still have an issue that does not get fully captured in these objectives. The GWFMs were intended to refine our understanding of g.w. behavior, in turn, to refine our understanding of the hydrogeologic system and controls of LNAPL & CF&T. Ultimately, CF&T will not depend on the GWFMs, it will depend on the transient aspect of fuel movement under presumably large, short-term release conditions within this complex heterogenous system. Leaving objectives in-place that imply the GWFMs are useful for risk estimates prior to that evaluation misses that critical point. We already know from literature, experience and internal CF&T evaluations that dissolved-phase transport will be limited to about ~50 – 200-ft from the LNAPL source in the formation. But, the LNAPL transport itself will vary over orders of magnitude in both rates, dimensions, and magnitude of impacts as a function of release volumes, locations, and characteristics. Particle tracking with the GWFMs can't address those issues, even if the GWFMs were in excellent working order and in complete agreement with area data.

In short, the GWFMs cannot be credibly used to address that which is most critical. How far/fast and in what directions will fuel migrate and how can we mitigate that migration to protect the aquifer? It's a transient question hinged on multiphase mechanics. The GWFMs, once fixed, can be used to estimate dissolved-phase transport away from that LNAPL source, but per above, that isn't really the biggest concern. Can fuel migrate rapidly to within a couple hundred feet of various receptors? We don't know given the evaluations we have so far received from the Navy team.

In short, what controls risk? Transient fuel migration.

Best regards

From: Palazzolo, Nicole <Palazzolo.Nicole@epa.gov>
Sent: Friday, August 20, 2021 1:42 PM
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Cc: Matt Tonkin <matt@sspa.com>; Tu, Lyndsey <Tu.Lyndsey@epa.gov>; Duffy, Mark <duffy.mark@epa.gov>
Subject: Update on EPA/DOH comments on GW Flow Model Objectives

All – Attached is an update on the response to the Navy proposed GWFM objectives. Matt took a stab at consolidating our joint agency high-level comments into this submittal after reviewing DOH comments and additional discussions with Gary. Take a look and let us know if there are any additional edits to this submittal. Ideally, we would submit this to Navy before the next AOC PM Check-in call.
Thanks and have a great weekend!

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